

IN THE CLAIMS:

Please cancel without prejudice Claims 1-30.

Please add the following newly drafted Claims 31-44:

1-30. (Cancelled)

31. (New) A system for providing a controlled amount of a gas from a liquid source,
comprising:

a source of liquid;

a source of a carrier gas;

a control valve for mixing the liquid with the carrier gas and gasifying the liquid

including:

a valve body having a valve seat;

a valve member for controlling the opening of the valve seat;

a liquid inlet port for connection to the source of liquid;

a liquid reservoir positioned operatively on one side of the valve seat and
connected to the liquid inlet port;

a carrier gas inlet port for connection to a source of carrier gas;

a central mixing chamber positioned operatively on the other side of the
valve seat in the control valve and connected to the carrier gas inlet port, the valve
member seats on the valve seat around the central mixing chamber whereby the
liquid is introduced radially inward to the mixing chamber by the control valve;
and

18 a release nozzle member with a restricted orifice connected to the mixing
19 chamber wherein the valve member controls the delivery of liquid to the mixing
20 chamber and the nozzle member releases the mixture of carrier gas and liquid
21 reactant from the mixing chamber through the restricted orifice so that the liquid
22 reactant is gasified when the pressure in the mixing chamber is sufficiently larger
23 than the downstream pressure;
24 a first conduit from the source of liquid to the control valve;
25 a regulator unit attached to the first conduit to control the flow of liquid;
26 a second conduit from the source of carrier gas to the control valve; and
27 a control unit connected to the regulator unit and the control valve for controlling
28 the production of gas, the control valve regulating the quantity of liquid and mixing the carrier
29 gas with the liquid at a first pressure level greater than a second pressure level downstream of the
30 release nozzle whereby the liquid mixed with the carrier gas is gasified with the assistance of the
31 pressure differential.

1 32. (New) The invention of Claim 31 further including a heater unit connected to the
2 control valve to heat the liquid.

1 33. (New) The invention of Claim 32 further including a second regulator unit for
2 controlling the flow of carrier gas and the control unit controls the second regulator unit.

1 34. (New) The invention of Claim 31 whereby the control valve includes a reservoir
2 for receiving the liquid that is radially outward from the valve seat.

1 35. (New) The invention of Claim 34 wherein a heater unit is connected to the
2 control valve to heat the liquid.

1 36. (New) The invention of Claim 31 wherein the valve body includes a diaphragm
2 with a rigid outer perimeter.

1 37. (New) A system for providing a controlled amount of a gas from a liquid source,
2 comprising:

3 a source of liquid;

4 a source of a carrier gas;

5 a control valve for mixing the liquid with the carrier gas and gasifying the liquid

6 including:

7 a valve body having a valve seat;

8 a valve member for controlling the opening of the valve seat;

9 a liquid inlet port for connection to the source of liquid;

10 a liquid reservoir positioned operatively on one side of the valve seat and
11 connected to the liquid inlet port;

12 a carrier gas inlet port for connection to a source of carrier gas;

13 a mixing chamber positioned operatively on the other side of the valve
14 seat and connected to the carrier gas inlet port; and

15 a release nozzle member with a restricted orifice connected to the mixing
16 chamber wherein the valve member controls the delivery of liquid to the mixing
17 chamber and the nozzle member releases the mixture of carrier gas and liquid
18 reactant from the mixing chamber through the restricted orifice so that the liquid

19 reactant is gasified when the pressure in the mixing chamber is sufficiently larger
20 than the downstream pressure;
21 a first conduit from the source of liquid to the control valve;
22 a regulator unit attached to the first conduit to control the flow of liquid;
23 a second conduit from the source of carrier gas to the control valve; and
24 a control unit connected to the regulator unit and the control valve for controlling
25 the production of gas, the control valve regulating the quantity of liquid and mixing the carrier
26 gas with the liquid at a first pressure level greater than a second pressure level downstream of the
27 release nozzle whereby the liquid mixed with the carrier gas is gasified with the assistance of the
28 pressure differential wherein the liquid reservoir is radially outward from the valve seat and the
29 mixing chamber is radially inward from the valve seat whereby the valve member controls the
30 inward flow of liquid to the mixing chamber.

1 38. (New) The invention of Claim 37 wherein the mixing chamber is an elongated
2 groove.

1 39. (New) The invention of Claim 37 further including a discharge conduit from the
2 release nozzle member that is heated.

1 40. (New) A system for providing a controlled amount of a gas from a liquid source,
2 comprising:

3 a source of liquid;

4 a source of a carrier gas;

5 a control valve for mixing the liquid with the carrier gas and gasifying the liquid

6 including a release nozzle, including a central mixing chamber in the control valve and a valve

7 member that seats on a valve seat around the central mixing chamber whereby the liquid is
8 introduced radially inward to the mixing chamber by the control valve;
9 a first conduit from the source of liquid to the control valve;
10 a regulator unit attached to the first conduit to control the flow of liquid;
11 a second conduit from the source of carrier gas to the control valve; and
12 a control unit connected to the regulator unit and the control valve for controlling
13 the production of gas, the control valve regulating the quantity of liquid and mixing the carrier
14 gas with the liquid at a first pressure level greater than a second pressure level downstream of the
15 release nozzle whereby the liquid mixed with the carrier gas is gasified with the assistance of the
16 pressure differential.

1 41. (New) The invention of Claim 40 further including a heater unit connected to the
2 control valve to heat the liquid.

1 42. (New) The invention of Claim 41 further including a second regulator unit for
2 controlling the flow of carrier gas and the control unit controls the second regulator unit.

1 43. (New) The invention of Claim 40 whereby the control valve includes a reservoir
2 for receiving the liquid that is radially outward from the valve seat.

1 44. (New) The invention of Claim 43 wherein a heater unit is connected to the
2 control valve to heat the liquid.